AMENDMENTS TO THE CLAIMS

The claims relating to the above-captioned patent application, as amended herein and with the status thereof, are as follows:

1. (Once amended) A disk drive, comprising:

a housing;

at least one data storage disk movably interconnected with said housing;

an actuator arm assembly movably interconnected with said housing by an actuator arm pivot;

an actuator arm drive assembly ~~interconnected~~associated with said actuator arm assembly;

a transducer interconnected with said actuator arm assembly and disposable in alignment with said at least one data storage disk by said actuator arm drive assembly; and

an actuator arm latch assembly comprising a latch pivot and a first latch member movably mounted on said latch pivot, wherein said latch pivot is disposed in non-parallel relation to said actuator arm pivot, and wherein said first latch member moves from a non-latching position to a latching position in response to said disk drive experiencing a shock event.

2. (Original) The disk drive of Claim 1, wherein said housing comprises a base plate.

3. (Original) The disk drive of Claim 1, wherein said actuator arm assembly is a rotary actuator arm assembly.

4. (Original) The disk drive of Claim 1, wherein said transducer is a read/write transducer.

5. (Once amended) The disk drive of Claim 1, wherein said housing comprises a base plate, wherein said first latch member comprises a latch, wherein said first latch member is movable between said non-latching position and said latching positions about said latch pivot, and wherein said latch is disposed further from said base plate when said first latch member is in said latching position versus said non-latching position.

6. (Original) The disk drive of Claim 1, wherein said first latch member comprises a first cup and a latch, wherein said actuator arm latch assembly further comprises a first inertial mass that is at least partially disposed within said first cup.

7. (Original) The disk drive of Claim 6, wherein said housing comprises a base plate, and wherein said first cup opens at least generally toward said base plate.

8. (Original) The disk drive of Claim 6, wherein said first cup comprises an annular sidewall that is disposed about a first reference axis, wherein said annular sidewall comprises a plurality of annular, planar facets having different slopes.

9. (Original) The disk drive of Claim 6, wherein said first latch member comprises a second cup, wherein said first and second cups are disposed on opposite sides of said latch pivot.

10. (Original) The disk drive of Claim 9, wherein said housing comprises a base plate, and wherein said first cup opens at least generally toward said base plate and said second cup opens at least generally away from said base plate.

11. (Once amended) The disk drive of Claim 1, wherein said at least one data storage disk is movably interconnected with said housing ~~base~~ within a first reference plane, wherein a second reference plane is perpendicular to said first reference plane, and wherein said actuator arm latch assembly comprises means for latching said actuator arm assembly both when said

disk drive is exposed to a force having at least a primary component that is within said first reference plane and when said disk drive is exposed to a force having a primary component that is within said second reference plane.

12. (Once amended) The disk drive of Claim 1, wherein said housing comprises a base plate, and wherein said actuator arm latch assembly comprises means for latching said actuator arm assembly when said disk drive is exposed to a force having a primary component that is at least generally parallel with said base plate, as well as when said disk drive ~~its~~is exposed to a force having a primary component that is at least generally perpendicular to said base plate.

13. (Original) The disk drive of Claim 1, wherein said actuator arm latch assembly comprises means for latching said actuator arm assembly when said disk drive is exposed to a force selected from the group consisting of a linear force, a rotational force, and any combination thereof.

14. (Once amended) The disk drive of Claim 1, wherein a primary axis of said latch pivot is disposed within a first reference plane that is at least generally perpendicular to a second reference plane that contains a primary axis of said actuator arm pivot.

15. (Once amended) The disk drive of Claim 1, wherein said actuator arm latch assembly comprises means for biasing said first latch member to ~~a~~said non-latching position.

16. (Original) The disk drive of Claim 1, wherein said actuator arm latch assembly comprises a second latch member fixedly mounted to said housing, whereby said second latch member does not move relative to said housing.

17. (Original) The disk drive of Claim 16, wherein said latch pivot is integrally formed with said second latch member.

18. (Original) The disk drive of Claim 16, wherein said first and second latch members are plastic.

19. (Once amended) The disk drive of Claim 16, wherein said first latch member comprises first ~~cup~~ and second cups disposed on opposite sides of said latch pivot, wherein said second latch member comprises third and fourth cups disposed on opposite sides of said latch pivot and at least generally vertically aligned with said first and second cups, respectively, wherein said actuator arm latch assembly ~~latch~~ further comprises first and second inertial masses disposed between said first and third cups and between said second and fourth cups, respectively.

20. (Original) The disk drive of Claim 16, wherein said first latch member comprises a first cup and a latch that is engageable with said actuator arm assembly, wherein said second latch member comprises a second cup, wherein said first and second cups at least generally open toward each other, wherein said actuator arm latch assembly comprises a first inertial mass disposed between said first and second cups, and wherein said first and second cups are of a different configuration.

21. (Original) The disk drive of Claim 20, wherein said second cup is at least generally trough-shaped.

22. (Original) The disk drive of Claim 20, wherein said second cup is elongated in a direction that is parallel to a portion of said first latch member that has said latch.

23. (Once amended) A disk drive, comprising:

a housing comprising a base plate;

at least one data storage disk movably interconnected with ~~the~~ said housing;

an actuator arm assembly movably interconnected with said housing ~~by an actuator arm pivot~~;

an actuator arm drive assembly ~~interconnected~~associated with said actuator arm assembly;

a transducer interconnected with said actuator arm assembly and disposable in alignment with said at least one data storage disk by said actuator arm drive assembly; and

an actuator arm latch assembly comprising a latch pivot and a first latch member movably mounted on ~~the~~said latch pivot, wherein said first latch member comprises a latch, wherein said first latch member is movable between non-latching and latching positions about said latch pivot, wherein said latch of said first latch member is disposed further from said base plate when said first latch member is in said latching position versus said non-latching position, and wherein said first latch member moves from said non-latching position to said latching position in response to said disk drive experiencing a shock event.

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24. (Once amended) The disk drive of Claim 23, wherein said latch pivot is disposed in non-parallel relation to an axis about which said actuator arm assembly moves~~said actuator arm pivot~~.

25. (Once amended) The disk drive of Claim ~~24~~23, wherein said actuator arm assembly is mounted on an actuator arm pivot, wherein a primary axis of said latch pivot is disposed within a first reference plane that is at least generally perpendicular to a second reference plane that contains a primary axis of said actuator arm pivot.

26. (Original) The disk drive of Claim 23, wherein said first latch member comprises a first cup and a latch, wherein said actuator arm latch assembly further comprises a first inertial mass that is at least partially disposed within said first cup.

27. (Original) The disk drive of Claim 26, wherein said first cup opens at least generally toward said base plate.

28. (Original) The disk drive of Claim 26, wherein said first cup comprises a planar base and an annular sidewall.

29. (Original) The disk drive of Claim 26, wherein said first cup comprises an annular sidewall that is disposed about a first reference axis, wherein said annular sidewall comprises a plurality of annular, planar facets having different slopes.

30. (Original) The disk drive of Claim 26, wherein said first latch member comprises a second cup, wherein said first and second cups are disposed on opposite sides of said latch pivot.

31. (Original) The disk drive of Claim 30, wherein said first cup opens at least generally toward said base plate and said second cup opens at least generally away from said base plate.

32. (Once amended) The disk drive of Claim 23, wherein said at least one data storage disk is movably interconnected with said ~~base plate~~housing within a first reference plane, wherein a second reference plane is perpendicular to said first reference plane, and wherein said actuator arm latch assembly comprises means for latching said actuator arm assembly both when said disk drive is exposed to a force having a primary component that is within said first reference plane and when said disk drive is exposed to a force having a primary component that is within said second reference plane.

33. (Original) The disk drive of Claim 23, wherein said actuator arm latch assembly comprises means for latching said actuator arm assembly when said disk drive is exposed to a force having a primary component that is at least generally parallel with said base plate, as well as when said disk drive its exposed to a force having a primary component that is at least generally perpendicular to said base plate.

34. (Original) The disk drive of Claim 23, wherein said actuator arm latch assembly comprises means for latching said actuator arm assembly when said disk drive is exposed to a force selected from the group consisting of a linear force, a rotational force, and any combination thereof.

35. (Once amended) The disk drive of Claim 23, wherein said actuator arm latch assembly comprises means for biasing said first latch member to said ~~a~~ non-latching position.

36. (Original) The disk drive of Claim 23, wherein said actuator arm latch assembly comprises a second latch member fixedly mounted to said base plate, whereby said second latch member does not move relative to said base plate.

37. (Original) The disk drive of Claim 36, wherein said latch pivot is integrally formed with said second latch member.

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38. (Original) The disk drive of Claim 36, wherein said first and second latch members are plastic.

39. (Once amended) The disk drive of Claim 36, wherein said first latch member comprises first and second cups disposed on opposite sides of said latch pivot, wherein said second latch member comprises third and fourth cups disposed on opposite sides of said latch pivot and at least generally vertically aligned with said first and second cups, respectively, wherein said actuator arm latch assembly ~~latch~~ further comprises first and second inertial masses disposed between said first and third cups and between said second and fourth cups, respectively.

40. (Original) The disk drive of Claim 39, wherein said second cup is at least generally trough-shaped.

41. (Original) The disk drive of Claim 39, wherein said second cup defines a first cavity having a length dimension and a width dimension, wherein said length dimension is greater than said width dimension and further is greater than a diameter of said first inertial mass.

42. (Once amended) The disk drive of Claim ~~36~~39, wherein said third cup has a different configuration than said first cup.

43. (Once amended) A disk drive, comprising:

a housing;

at least one data storage disk movably interconnected with said housing;

an actuator arm assembly movably interconnected with said housing ~~by an actuator arm pivot~~;

an actuator arm drive assembly ~~interconnected~~associated with said actuator arm assembly;

a transducer interconnected with said actuator arm assembly and disposable in alignment with said at least one data storage disk by said actuator arm drive assembly; and

an actuator arm latch assembly comprising a latch pivot and a first latch member movably mounted on said latch pivot, wherein said first latch member comprises a first cup and a latch, wherein said actuator arm latch assembly further comprises a first inertial mass at least partially disposed within said first cup, and wherein said first latch member moves from a non-latching position to a latching position in response to said disk drive experiencing a shock event.

44. (Original) The disk drive of Claim 43, wherein said housing comprises a base plate, and wherein said actuator arm latch assembly comprises a second latch member fixedly mounted to said base plate, whereby said second latch member does not move relative to said base plate.

45. (Original) The disk drive of Claim 44, wherein said latch pivot is integrally formed with said second latch member.

46. (Original) The disk drive of Claim 44, wherein said first and second latch members are plastic.

47. (Once amended) The disk drive of Claim 44, wherein said first latch member comprises a second cup, wherein said first ~~cup~~ and second cups are disposed on opposite sides of said latch pivot, wherein said second latch member comprises third and fourth cups disposed on opposite sides of said latch pivot and at least generally vertically aligned with said first and second cups, respectively, wherein said actuator arm latch assembly ~~latch~~ further comprises a second inertial mass, wherein said first inertial mass is disposed between said first and third cups and said second inertial mass is disposed between said second and fourth cups, respectively.

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48. (Original) The disk drive of Claim 47, wherein said first cup opens at least generally toward said base plate, said second cup opens at least generally away from said base plate, said third cup opens at least generally away from said base plate, and said fourth cup opens at least generally toward said base plate.

49. (Canceled).

50. (Once amended) A method for reducing a potential for contact between a head and a data storage disk of a disk drive, comprising the steps of:

parking said head;

exposing said disk drive to a first ~~force~~ shock event having at least a primary component that is at least generally parallel to said data storage disk, wherein said exposing said disk drive to a first ~~force~~shock event step is executed after said parking step;

executing a first precluding step comprising precluding said head from moving across said

data storage disk as a result of said exposing said disk drive to a first ~~force~~ shock event step, wherein said first precluding step comprises moving a first latching member from a non-latching position to a latching position in response to said first shock event step;

exposing said disk drive to a second ~~force~~ shock event having at least a primary component that is at least generally perpendicular to said data storage disk, wherein said exposing said disk drive to a second ~~force~~ shock event step is executed after said parking step; and

executing a second precluding step comprising precluding said head from moving across said data storage disk as a result of said exposing said disk drive to a second ~~force~~ shock event step, wherein said second precluding step comprises moving said first latching member from said non-latching position to said latching position in response to said second shock event step.

51. (Original) The method of Claim 50, wherein said parking step comprises disposing said head beyond a perimeter of said data storage disk.

52. (Original) The method of Claim 50, wherein said parking step comprises disposing said head on said data storage disk.

53. (Once amended) The method of Claim 50, wherein said executing first and second precluding steps each comprise moving a latch of said first latching member at least generally in an upward direction.

54. (Once amended) The method of Claim 50, wherein said executing first and second precluding steps each comprise pivoting ~~a latch~~ said first latching member about a first reference axis that is disposed in non-parallel relation to a data storage surface of said data storage disk.

55. (Once amended) The method of Claim 50, wherein said data storage disk rotates about a first reference axis, wherein said executing first and second precluding steps each comprise pivoting ~~a latch~~ said first latching member about a second reference axis, and wherein said first and second reference axes are contained within first and second reference planes that are disposed in at least generally perpendicular relation.

56. (Original) The method of Claim 50, wherein an actuator arm assembly latch comprises first and second inertial masses, wherein said executing a first precluding step uses both of said first and second inertial masses, and wherein said executing a second precluding step uses said first inertial mass but not said second inertial mass

57. (New) The disk drive of Claim 1, wherein said actuator arm latch assembly further comprises a first inertial mass, wherein an acceleration of said first inertial mass due to the shock event causes said first inertial mass to exert a force on said first latch member that attempts to move said first latch member from said non-latching position to said latching position.

58. (New) The disk drive of Claim 23, wherein said actuator arm latch assembly further comprises a first inertial mass, wherein an acceleration of said first inertial mass due to the shock event causes said first inertial mass to exert a force on said first latch member that attempts to move said first latch member from said non-latching position to said latching position.

59. (New) The disk drive of Claim 43, wherein said actuator arm latch assembly further comprises a first inertial mass, wherein an acceleration of said first inertial mass due to the shock event causes said first inertial mass to exert a force on said first latch member that attempts to move said first latch member from said non-latching position to said latching position.

60. (New) A disk drive, comprising:

a housing;

a first data storage disk movably interconnected with said housing;

an actuator arm assembly movably interconnected with said housing;

an actuator arm drive assembly associated with said actuator arm assembly;

a transducer interconnected with said actuator arm assembly and disposable in alignment with said first data storage disk by said actuator arm drive assembly; and

an actuator arm latch assembly comprising a latch pivot, a first latch member movably mounted on said latch pivot, and a second latch member, wherein said first latch member comprises first and second cups disposed on opposite sides of said latch pivot, wherein said second latch member comprises third and fourth cups disposed on opposite sides of said latch pivot and at least generally vertically aligned with said first and second cups, respectively, and wherein said actuator arm latch assembly further comprises first and second inertial masses disposed between said first and third cups and between said second and fourth cups, respectively.

61. (New) The disk drive of Claim 60, wherein:

said second latch member is stationary relative to said housing.

62. (New) A disk drive, comprising:

a housing;

a first data storage disk movably interconnected with said housing;

an actuator arm assembly movably interconnected with said housing;

an actuator arm drive assembly associated with said actuator arm assembly;

a transducer interconnected with said actuator arm assembly and disposable in alignment with said first data storage disk by said actuator arm drive assembly; and

an actuator arm latch assembly comprising, a latch pivot, a first latch member movably mounted on said latch pivot, and first and second inertial masses, wherein an acceleration of both said first and second inertial masses causes said first and second inertial masses to exert a force on said first latch member that attempts to move said first latch member in response to a first force being exerted on said disk drive, and wherein an acceleration of only said second inertial mass causes said second inertial mass to exert a force on said first latch member that attempts to move said first latch member in response to a second force being exerted on said disk drive that is different from said first force.

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